

Remarks

Applicant respectfully submits that the claimed invention is allowable over the cited references. The Office Action fails to cite any prior art to show correspondence to multiple steps of claim 1 and various dependent claims, and the rationale used to support the § 103 rejections is improper. The amendment to claim 1 is not needed to explain the deficiencies with the rejections, but rather is presented merely to make express that which should already be implicit.

The Office Action dated October 10, 2007 indicated an objection to the title of the invention, an objection to the disclosure due to informalities, an objection to claim 1, and listed the following rejections: claims 1, 2 and 10 stand rejected under § 102(b) over Wang (U.S. Patent No. 6,074,922); and, under § 103(a), claims 3-7 and 9 stand rejected over Wang in view of Hashimoto (U.S. Pub. No. 2001/0003056); and claim 8 stands rejected over Wang in view of Wu (U.S. Patent No. 6,348,390).

Regarding the various objections, Applicant addressed each of these objections in arguments presented in the Office Action Response and Amendment dated September 6, 2007, which arguments are incorporated by reference in entirety. The Examiner appears to have repeated these objections without addressing Applicant's response. For example, the language indicated as the basis for the objection to claim 1 is no longer present in the claim. Applicant respectfully submits that each of these has been overcome and requests that they be removed.

Applicant respectfully traverses each of the rejections (each being based at least partly on the Wang reference). The cited portions of the Wang reference do not correspond to the claimed invention, and Applicant notes that a prima facie case has not even been presented with respect to attempting to align all limitations of the claimed invention to teachings of the Wang reference. For example, no attempt has been made to show how the Wang reference might be asserted as corresponding to the last two steps of claim 1. A careful review of this matter would reveal, for instance, that the last step of claim 1 could not correspond to the Wang reference because the Wang reference does not teach a "gate region including a semiconductor region of a further semiconductor material" as part of a compound of the metal layer (42 of Fig. 7). Moreover, the last compound formed in claim 1 is clearly inclusive of the gate region: Applicant's claim 1

calls for “forming the semiconductor region on the gate dielectric; depositing a sacrificial region on top of the semiconductor region; *** selectively etching the sacrificial region with respect to the semiconductor region; [and] depositing a metal layer on the source region, the drain region, and the gate region.” The Wang reference includes no such teaching, and none has been asserted in the Office Action. The amendment to claim 1 should make this distinction more apparent. Accordingly, the correspondence used for both rejections is lacking and each of the rejections should be removed.

Differences between the Wang reference and the claimed invention should be that much more apparent upon a close review of the rejections relative to some of Applicant’s dependent claims. Claim 3, for example, sets forth that the “further semiconductor region is completely consumed during the formation of the compound of the metal layer and the further semiconductor material”. In contrast, Wang transforms the titanium layer 40 into titanium silicide 42 while avoiding transformation or consumption of its gate 16. *See, e.g.,* Figure 6 and Col. 3:58-62. Apparently recognizing this issue, the Office Action proposes that the prior art would lead a skilled artisan to modify the teaching of the Wang reference by Hashimoto’s teaching that, for a certain embodiment in the Hashimoto reference, Hashimoto’s gate can be consumed as part of its semiconductor manufacturing process.

Applicant disagrees and submits that the skilled artisan would not be motivated to implement such a modification of the Wang reference in part because the modification attempts to solve a problem that is not present in the cited embodiment and because the modification drastically alters the entire process and structure taught by the Wang reference. In this and other regards, the Wang reference clearly teaches away from this modification proposed by the Examiner. As is well-established (before and after the KSR decision), such a rejection is improper because the proposed modification would undermine the main objective and embodiment of the Wang reference and/or is based on an attempt to solve a problem that is not present in (and not needing to be addressed by) the Wang reference.

Moreover, a main objective of the Wang reference is to form a metal silicide on the top surface of the gate electrode in order to solve the resistance degradation problem for narrow polysilicon lines caused by salicide non-uniformity (discussed in the

background section of the Wang reference and at Col. 4:12-14). Accordingly, the rejection violates MPEP § 2143.01. *See also In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984) (A §103 rejection cannot be maintained when the asserted modification undermines purpose of main reference.).

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063 (or the undersigned).

Please direct all correspondence to:

Corporate Patent Counsel
NXP Intellectual Property & Standards
1109 McKay Drive; Mail Stop SJ41
San Jose, CA 95131

CUSTOMER NO. 65913

By: 
Name: Robert J. Crawford
Reg. No.: 32,122
651-686-6633 x2300
(NXPS.273PA)